

### **REMARKS**

This paper is responsive to any paper(s) indicated above, and is responsive in any other manner indicated below.

### **EXAMINER INTERVIEW ACKNOWLEDGED AND STATEMENT OF SUBSTANCE**

This paper is (at least partially) responsive to the examiner interview conducted 12 February 2009, by and between (as indicated on the Interview Summary document) assigned Examiner Jessica Roberts, Applicant's foreign representative Kentaro Asai and attorney Paul J. Skwierawski, in the present application. It is respectfully submitted that the statement(s) regarding the "Substance of Interview", and all other information, as set forth within the Interview Summary document is accurate and is herein adopted by Applicant. Further to the above, any foregoing amendments may include amendments discussed during, or resultant from, the examiner interview, and the following includes a reiteration of discussions/arguments had during the examiner interview.

### **PENDING CLAIMS**

Claims 23-26 was pending, under consideration and subjected to examination. Appropriate claims have been amended, canceled and/or added (without prejudice or disclaimer) in order to adjust a clarity and/or focus of Applicant's claimed invention. That is, such changes are unrelated to any prior art or scope adjustment and are simply refocused claims in which Applicant is presently interested. At entry of this paper, Claim 23-26 will be pending for further

consideration and examination in the application. It is respectfully submitted that the present amendment of the claims does not add new matter to the application.

**'112, 1<sup>ST</sup> PARA. "WRITTEN DESCRIPTION" REJECTION - TRAVERSED**

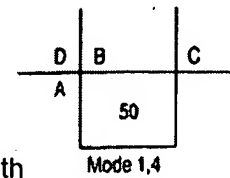
Claims 25-26 have been rejected, under 35 USC '112, first paragraph, as failing to comply with the written description requirement, for the concerns listed within the item 3 on page 2 of the Detailed Action portion of the Office Action.

Traversal is appropriate, because the Office Action listed feature was sufficiently described/taught within Applicant's original disclosure.

MPEP 2163 states two other guidelines of relevance to the present rejection, i.e., "To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention", and secondly, "...the PTO has the initial burden of presenting evidence or reasons why persons skilled in the art would not have recognized in the disclosure a description defined by the claims." Here, the Office Action comments have supplied only a bare (albeit partially bolded) quotation of Applicant's claim limitations, with no accompanying evidence or reasons. Accordingly, it is respectfully submitted that the Examiner has not met his/her initial burden to support the "written description" rejection. It is respectfully submitted that, in the present situation, the Examiner could not adequately support the rejection, because numerous locations throughout Applicant's original disclosure definitively show that Applicant had possession of the claimed invention feature, i.e., "predetermined adjacent blocks".

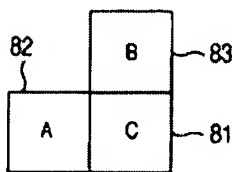
As a first example, Applicant's FIG. 8 (partially reproduced herewith for convenience) and paragraph [0080] of this application's US-2005-0152452-A1 publication, show and describe "adjacent blocks A, B and C" which are adjacent to a block 50. Also,

**FIG.8**



**FIG.14**

Applicant's FIG. 14 (partially reproduced herewith



for convenience) and paragraph [0081] show and describe a target block C having predetermined adjacent blocks A and B.

Based upon the foregoing, reconsideration and withdrawal of the above-referenced rejection are respectfully requested. If the Examiner continues such rejection, the Examiner should provide "evidence or reasons why persons skilled in the art would not have recognized in the disclosure a description defined by the claims", as required by MPEP 2163.

#### **REJECTION UNDER '112, 2ND PAR. OBVIATED VIA CLAIM AMENDMENT**

Claims 23-25 have been rejected under 35 USC '112, second paragraph, as being indefinite for the concerns listed on pages 2 and 3 of the Office Action. Appropriate ones of such claims have been carefully reviewed and carefully amended where appropriate in order to address the Office Action listed concerns. As the foregoing is believed to have addressed all '112 second paragraph concerns, reconsideration and withdrawal of the '112 second paragraph rejection are respectfully requested.

**'101 REJECTION - ALLEGED "NON-STATUTORY SUBJECT MATTER"**

Claims 23-26 have been rejected under 35 USC 101, based upon an allegation that Applicant's recited claim(s) is directed to non-statutory subject matter.

Traversal is appropriate. However, Applicant respectfully submits that present amendments to ones of the rejected claims even further define the rejected claims within proper 101 subject matter, and have obviated the rejection. Based upon the foregoing, reconsideration and withdrawal of the '101 rejection are respectfully requested.

In the event that the Examiner determines that any of the present claims do not satisfy the statutory subject matter requirement under '101 and are still directed to non-statutory subject matter, Applicant and the Undersigned ask the Examiner to telephone the Undersigned at the local Washington, D.C. area telephone number of 703-312-6600, or to draft any Office Action rejection, with recommended amendments which would obviate the '101-rejection. The Examiner is thanked in advance for such helpful considerations.

**DUPLICATE CLAIMS OBJECTION UNDER 37 CFR '1.75 - TRAVERSED**

Applicant respectfully traverses the 37 CFR '1.75 objection of claims 23-25 as allegedly being improper duplicate claims, as set forth in paragraphs 9 and 10 on page 4 of the Office Action. Applicant respectfully submits the following. It is well established under U.S. patent law that even a small change in scope between claims is sufficient to avoid a 37 CFR '1.75 duplicate claims objection with respect to such scope-differing claims, i.e., major multi-million dollar legal cases are fought over a single word in a claim. Even **MPEP 706.03(k)** concerning "Duplicate Claims" itself

states (in part), "...a mere difference in scope between claims has been held to be enough". It is respectfully submitted that Applicant's different wording within the respective claims results in differences in scope between the claims. As the foregoing is believed to have addressed all '1.75 - duplicate claims concerns, reconsideration and withdrawal of the '1.75 - duplicate claims objection are respectfully requested.

#### **"PROVISIONAL" DOUBLE-PATENTING**

It is respectfully noted that the present double-patenting rejections set forth in sections 11-18 of the Office Action, are only "provisional" double-patenting rejections. As a result, Applicant respectfully submits a traversal, but refrains from commenting further on a substance of the rejection at this time, until an actual double-patenting rejection is made.

If a situation arises where the only remaining issue blocking allowance is the double-patenting rejection(s), the Examiner is herein requested to telephone the Undersigned at the local Washington, D.C. area telephone number of 703-312-6600, for the possible immediate preparation/filing of a terminal disclaimer to move the application to allowance.

#### **REJECTION(S) UNDER 35 USC '103**

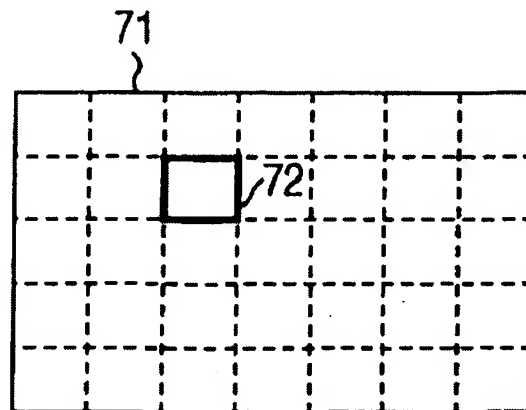
The 35 USC '103 rejection of claims 23-24 and 25-26 is respectfully traversed. However, such rejection has been rendered obsolete by the present clarifying amendments to Applicant's claims, and accordingly, traversal arguments are not appropriate at this time. However, Applicant respectfully submits the following to

preclude renewal of any such rejections against Applicant's clarified claims. That is, insofar as any such rejection applies to Applicant's presently-clarified claims, Applicant respectfully submits the following.

All descriptions of Applicant's disclosed and claimed invention, and all descriptions and rebuttal arguments regarding the applied prior art, as previously submitted by Applicant in any form, are repeated and incorporated hereat by reference. Further, regarding any descriptions and rebuttal arguments concerning Applicant's invention and/or the applied prior art as included herein, yet found to be corrective over prior descriptions and rebuttal arguments, such corrective descriptions and rebuttal arguments should be considered to supersede prior descriptions and rebuttal arguments. Still further, all Office Action statements regarding the prior art rejections are respectfully traversed. As additional arguments, Applicant respectfully submits the following.

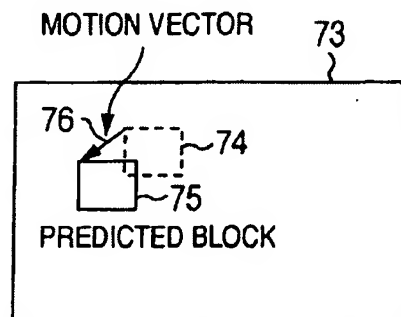
Applicant's disclosed and claimed invention concerns the decoding of images. One goal with decoding is to use least amount of image information as possible, yet still maintain reasonable imaging results.

As background, Applicant's invention is applicable to "blocks" (or "macroblocks"). That is, a larger frame 71 (see sketch) may be divided up into a plurality of blocks 72.



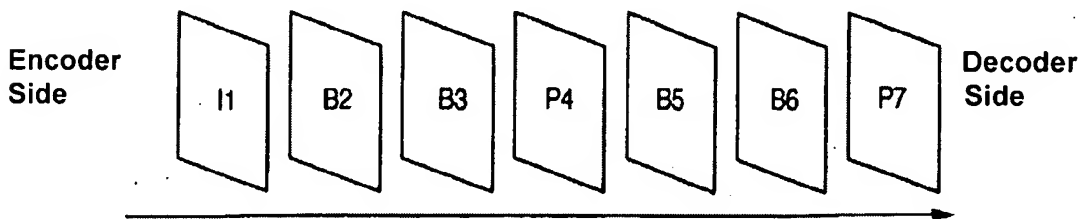
CURRENT FRAME

In conducting an encoding operation, each block may be processed at an encoder end, e.g., to derive various block information, e.g., a "motion vector", "residual information", etc.

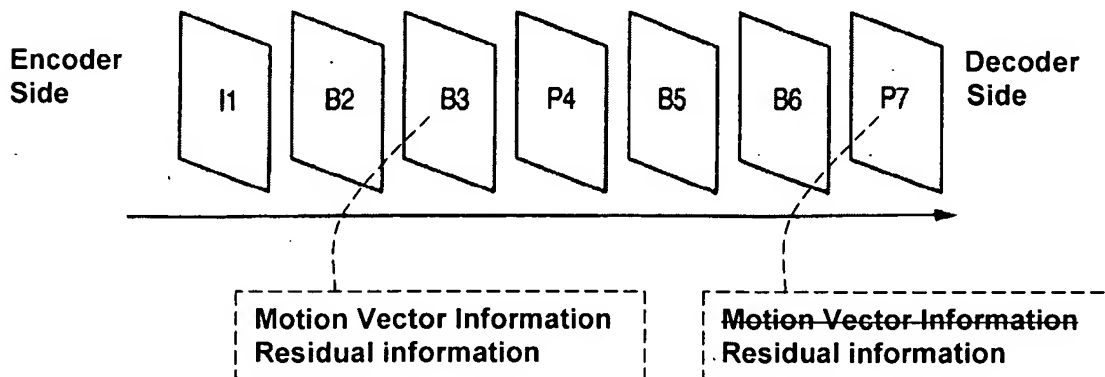


PREVIOUS FRAME

One can then transmit the block information (e.g., of "I", "B" and "P" blocks of MPEG4) from encoder side to decoder side (see sketch). That is, each block may be transmitted using a differing mode (Forward Prediction; Backwards Prediction; Bi-Directional Prediction; Direct Mode Prediction)



Respective ones of the transmitted blocks may include "motion vector" information, "residual information", etc. (see the example **B3** block in sketch below). Blocks transmitted with "motion vector" information are easy to decode at decoder side because decoder is given the "motion vector".



In contrast, other ones of "motion-vector-less" (**MVL**) blocks **do NOT** include the "motion vector" information (see the example P7 block in sketch above). These blocks concern "a prediction mode without motion vector"



decoding" (or "Direct Mode Prediction" mode, or a "motion-vector-less prediction mode"). These MVL blocks are HARDER to decode at decoder side because decoder is NOT given the "motion vector".

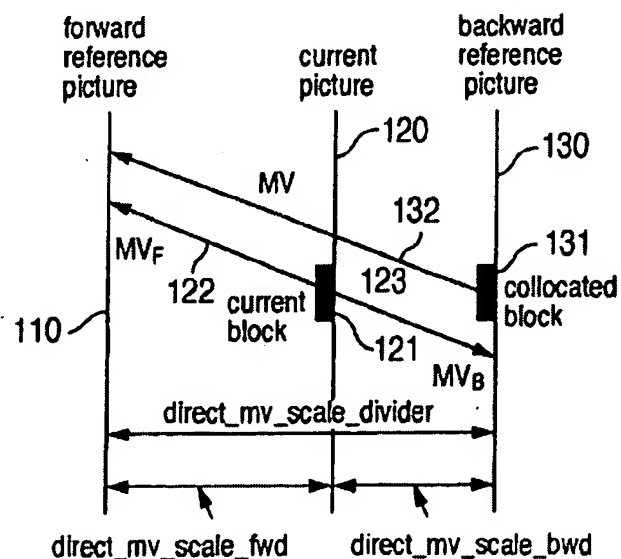
Applicant's present invention concerns an approach on how to decode these MVL blocks on the decoder side.

As further background, one approach to decode these MVL blocks on the decoder side concerns a "Conventional Direct Mode" approach. Such approach uses a motion vector determined for a "collocated block" (see Applicant's FIG. 9 reproduced herewith for convenience) of a backward reference picture (or frame),

to interpolate a motion vector for a current MVL block existing within a current picture (or frame). An

understanding of most details of such approach is not important regarding the present discussions. However, it is important to realize that the "collocated block" (and its motion vector) exists with respect to a different picture frame in comparison to a "current block" which exists within a "current picture" frame.

FIG.9



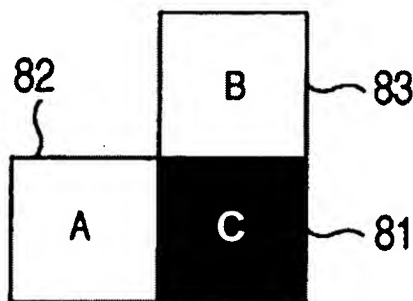
$$MV_F = \text{direct\_mv\_scale\_fwd} \cdot MV / \text{direct\_mv\_scale\_divider}$$

$$MV_B = \text{direct\_mv\_scale\_bwd} \cdot MV / \text{direct\_mv\_scale\_divider}$$

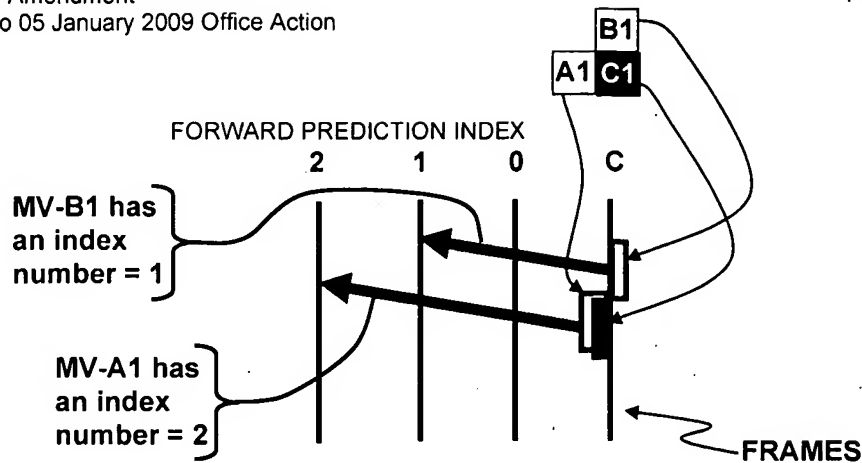
The above “Conventional Direct Mode” approach gives good decoding results MOST OF THE TIME, but there are situations where it does not give good results. Applicant’s invention provides an alternative approach which may be used.

That is, Applicant’s present invention concerns another (i.e., differing) “New Direct Mode” approach. As one distinguishing feature, Applicant’s present invention looks to OTHER BLOCKS from the SAME PICTURE FRAME to determine the “motion vector” information to be used for decoding of the “motion-vector-less” (MVL) block.

In turning to an example, if a current “motion-vector-less” (MVL) block is given as block C (see FIG. 14 portion reproduced below for convenience), one may consider an adjacent left block A and an adjacent upper block B, and any motion vector information thereof.



Motion vector information (of adjacent blocks within a same frame) which Applicant’s present invention may consider (as one non-limiting example), is an “index number” of forward reference frames to which adjacent blocks’ vector information refers. A drawing sketch is useful in an understanding.



More particularly, the above sketch shows a current block **C1** (in plan view and in side view) with two adjacent blocks **A1**, **B1** within a same current frame "C", and also sequential "index numbers" (0, 1, 2, ...) for neighboring forward-prediction frames are assigned sequentially and extending to the left (i.e., in the forward direction). The sketch further shows that a motion vector **MV-B1** extending from adjacent block **B1** has an index number of "1" (i.e., points to a forward frame having an index number of "1"), and that a motion vector **MV-A1** extending from adjacent block **A1** has an index number of "2" (i.e., points to a forward frame having an index number of "2"). In such instance, Applicant's invention may, in a first selection option, select the pointed-to forward reference frame having a SMALLEST index number (FIG. 16, blocks 621 and 623), i.e., would select the forward frame "1" as a forward reference frame for the current block C1. As a second selection option, in the event that neither of the adjacent blocks A1 and B1 uses (i.e., points to) a forward reference frame, Applicant's invention may select the forward reference frame having the index 0 (FIG. 16, blocks 622 and 624) as a forward reference frame for the current block C1.

That is, Applicant's disclosed and claimed invention (using independent claim 23 as an example) has an arrangement "determining motion vector information to be used for the current block in the prediction mode, based on whether adjacent blocks adjacent to the current block, have a motion vector, wherein both the adjacent blocks and the current block belong to the current frame and the adjacent blocks are decoded earlier than the current block".

Turning attention to rebuttal of the previously-applied art, Snook does not (at minimum) teach or suggest any type of arrangement for "determining motion vector information to be used for the current block in the prediction mode, based on whether adjacent blocks adjacent to the current block, have a motion vector, wherein both the adjacent blocks and the current block belong to the current frame". That is, Snook's arrangement looks at neighboring frames, not a current frame. For example, Snook's FIG. 2 (reproduced herewith for convenience) shows reference being made to a past reference frame or picture P0 (see arrow extending from current frame P1, to past frame P0), or being made to future reference frame or picture P1 (see arrow extending from current frame P1, to future frame P2). In short, it is clear that Snook's arrangement relates to

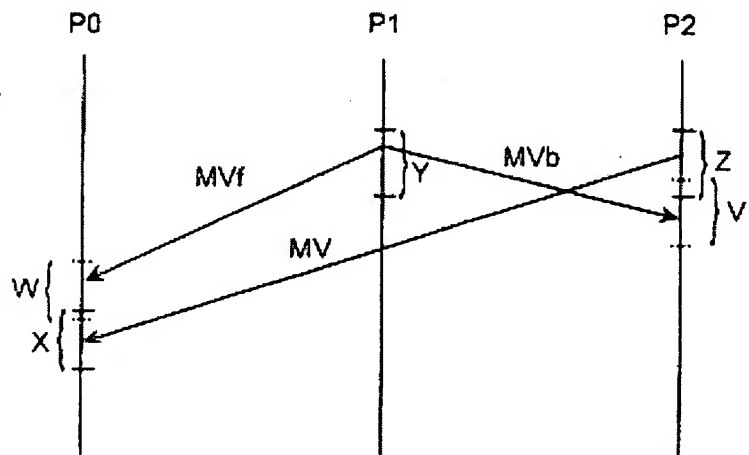


FIG.2

the above-discussed **FIG. 9 “Conventional Direct Mode” approach** which uses a motion vector of a **backward reference picture (or frame) and/or a forward reference picture (or frame)**, to interpolate a motion vector for a current MVL block existing within a current picture (or frame). Thus, if anything, Snook **TEACHES AWAY** from Applicant's invention which references blocks WITHIN A SAME (I.E., COMMON) FRAME.

Turning finally to Fukuhara et al. and Zaccarin et al., neither reference cures the major deficiencies mentioned above with respect to the above-discussed primary Snook reference. Accordingly, it is respectfully submitted that the applied and/or known references (whether taken individually, or in combination) would not have disclosed or suggested Applicant's claimed invention.

As a result of all of the foregoing, it is respectfully submitted that the applied art (taken alone and in the Office Action combinations) would not support a '103 obviousness-type rejection of Applicant's claims. Accordingly, reconsideration and withdrawal of such '103 rejection, and express written allowance of all of the '103 rejected claims, are respectfully requested.

#### **EXAMINER INVITED TO TELEPHONE**

The Examiner is herein invited to telephone the undersigned attorneys at the local Washington, D.C. area telephone number of 703/312-6600 for discussing any Examiner's Amendments or other suggested actions for accelerating prosecution and moving the present application to allowance.

### **RESERVATION OF RIGHTS**

It is respectfully submitted that any and all claim amendments and/or cancellations submitted within this paper and throughout prosecution of the present application are without prejudice or disclaimer. That is, any above statements, or any present amendment or cancellation of claims (all made without prejudice or disclaimer), should not be taken as an indication or admission that any objection/rejection was valid, or as a disclaimer of any scope or subject matter. Applicant respectfully reserves all rights to file subsequent related application(s) (including reissue applications) directed to any/all previously claimed limitations/features which have been subsequently amended or cancelled, or to any/all limitations/features not yet claimed, i.e., Applicant continues (indefinitely) to maintain no intention or desire to dedicate or surrender any limitations/features of subject matter of the present application to the public.

### **CONCLUSION**

In view of the foregoing amendments and remarks, Applicant respectfully submits that the claims listed above as presently being under consideration in the application are now in condition for allowance.

To the extent necessary, Applicant petitions for an extension of time under 37 CFR '1.136. Authorization is herein given to charge any shortage in the fees, including extension of time fees and excess claim fees, to Deposit Account No. 01-2135 (Case No. 500.44249X00) and please credit any excess fees to such deposit account.

Based upon all of the foregoing, allowance of all presently-pending claims is respectfully requested.

Respectfully submitted,

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